

## Claims

What is claimed is:

1. A coated optical fiber comprising:  
a silica cladding; and  
5 a coating applied to said cladding to provide said coated optical fiber having a diameter from about 120 microns to about 150 microns, said coated optical fiber further having a relative frequency distribution of at least about 85% for dynamic fatigue measurements between about  $49.2 \times 10^3 \text{ kg/cm}^2$  and about  $63.3 \times 10^3 \text{ kg/cm}^2$ .
- 10 2. The coated optical fiber of claim 1 wherein said relative frequency distribution is at least about 90%.
3. The coated optical fiber of claim 1, wherein said diameter is from about 128 microns to about 135 microns and said relative frequency distribution is at least about  
15 95%.
4. The coated optical fiber of claim 1, wherein said coated optical fiber further includes an optical fiber core covered by said silica cladding.
- 20 5. The coated optical fiber of claim 4, wherein said optical fiber core and said silica cladding provide a silica clad core having a diameter from about 65 microns to about 100 microns.
6. The coated optical fiber of claim 5, wherein said silica clad core has a diameter  
25 from about 80 microns to about 90 microns.
7. The coated optical fiber of claim 5, wherein said coating is a polymeric coating.
8. The coated optical fiber of claim 7, wherein said polymeric coating comprises a  
30 first layer in contact with a second layer.

9. The coated optical fiber of claim 7, wherein said polymeric coating forms by curing of a coating composition that contains a cationic photoinitiator.

10. The coated optical fiber of claim 9, wherein said cationic photoinitiator is a diaryl  
5 iodonium salt having a diaryliodonium cation and an anion selected from the group consisting of hexafluoroantimonates, and methide anions having a general formula  $(R_fSO_2)_3C^-$ .

11. The coated optical fiber of claim 10, wherein said general formula  $(R_fSO_2)_3C^-$  is  
10 selected from the group consisting of  $(CF_3SO_2)_3C^-$ ,  $(C_4F_9SO_2)_3C^-$ , and  $(C_8F_{17}SO_2)_3C^-$ , and the like.

12. A GGP optical fiber comprising:  
an optical fiber core;  
15 a silica cladding over said optical fiber core, to provide a silica clad core;  
and  
a permanent polymeric coating applied to said cladding by exposure to  
actinic radiation of a photocurable composition containing a photoinitiator, said GGP  
optical fiber having a diameter from about 120 microns to about 150 microns, said GGP  
20 optical fiber further having a relative frequency distribution of at least about 85% for  
dynamic fatigue measurements between about  $49.2 \times 10^3 \text{ kg/cm}^2$  and about  $63.3 \times 10^3$   
 $\text{kg/cm}^2$ .

13. The GGP optical fiber of claim 12, wherein said relative frequency distribution is  
25 at least about 90%.

14. The GGP optical fiber of claim 13, wherein said diameter is from about 128  
microns to about 135 microns and said relative frequency distribution is at least about  
95%.

15. The GGP optical fiber of claim 12, wherein said silica clad core has a diameter  
30 from about 65 microns to about 100 microns.

16. The GGP optical fiber of claim 15, wherein said silica clad core has a diameter from about 80 microns to about 90 microns.

5 17. The GGP optical fiber of claim 12, wherein said permanent polymeric coating has a thickness from about 10 microns to about 25 microns.

18. The GGP optical fiber of claim 17, wherein said permanent polymeric coating has a thickness from about 20 microns to about 23 microns.

10

19. The GGP optical fiber of claim 12, wherein said photoinitiator comprises a diaryl iodonium salt having a diaryliodonium cation and an anion selected from the group consisting of hexafluoroantimonates, and methide anions having a general formula  $(R_fSO_2)_3C^-$ .

15

20. The GGP optical fiber of claim 19, wherein said general formula  $(R_fSO_2)_3C^-$  is selected from the group consisting of  $(CF_3SO_2)_3C^-$ ,  $(C_4F_9SO_2)_3C^-$ , and  $(C_8F_{17}SO_2)_3C^-$ , and the like.

20

add  
a, 7